



Auto Rebal Model - Version 3.0

EXHIBIT 3
FOR "DECLARATION
OF PRIOR INVENTION..."
Application No. 09/328,626

RECEIVED
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GROUP 3600

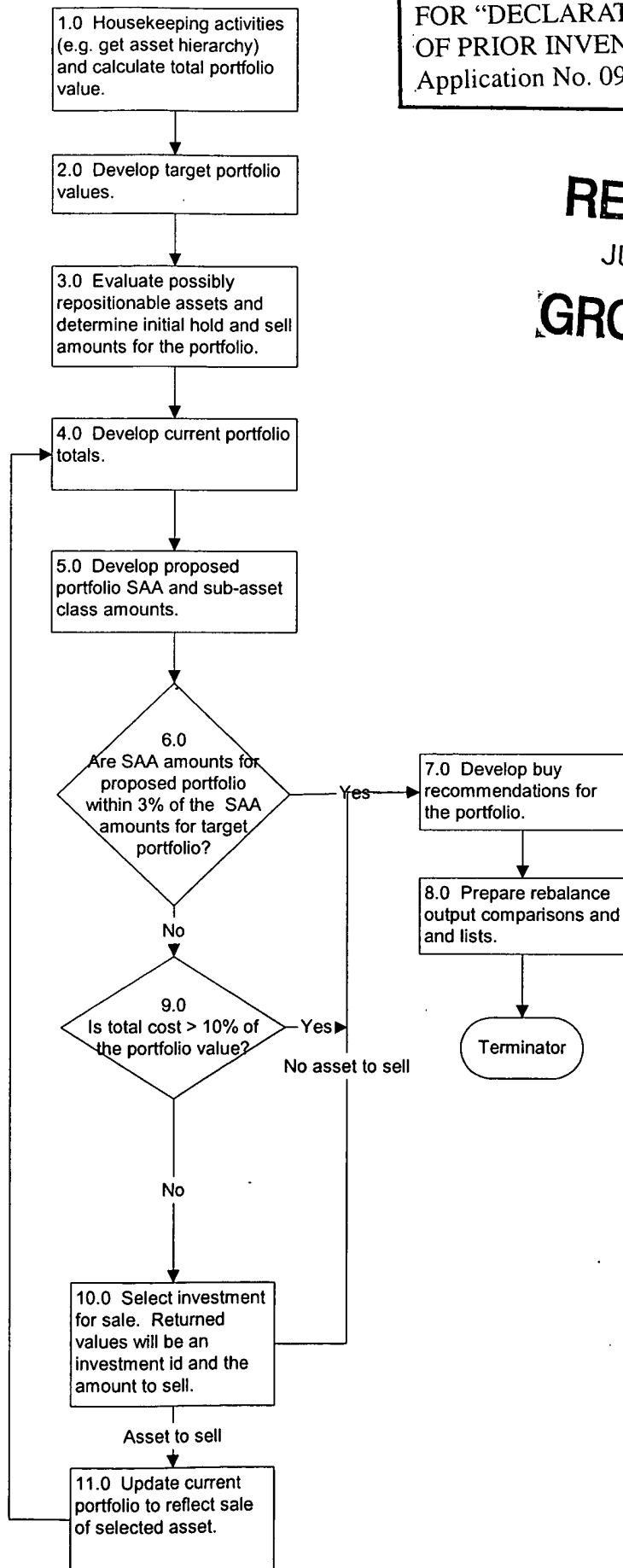
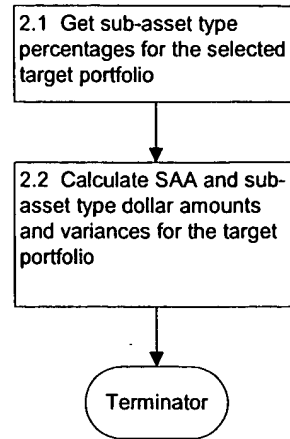


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2.1.1 Determine if portfolio should use tax exempt fund version. If PFP, answer is no. If PAS, evaluate taxable vs. non-taxable bond yields to determine if tax exempt bonds provide a better yield based on the client's marginal tax rate.



2.1.2 Determine if tactical tilt is needed. For PFP, answer is core portfolio. For VPAS, get tactical tilt to be used from rebal parameters.



2.1.3 Use Ibbotson portfolio #, portfolio tilt provided on input (core, income, tax efficient), tactical tilt (none, 5%, 10%), taxable vs. tax exempt funds and read portfolio from the DB.



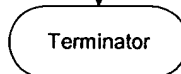
2.1.4 Using portfolio variant id obtained in 1.1, read new table to get asset class percentages for the portfolio.

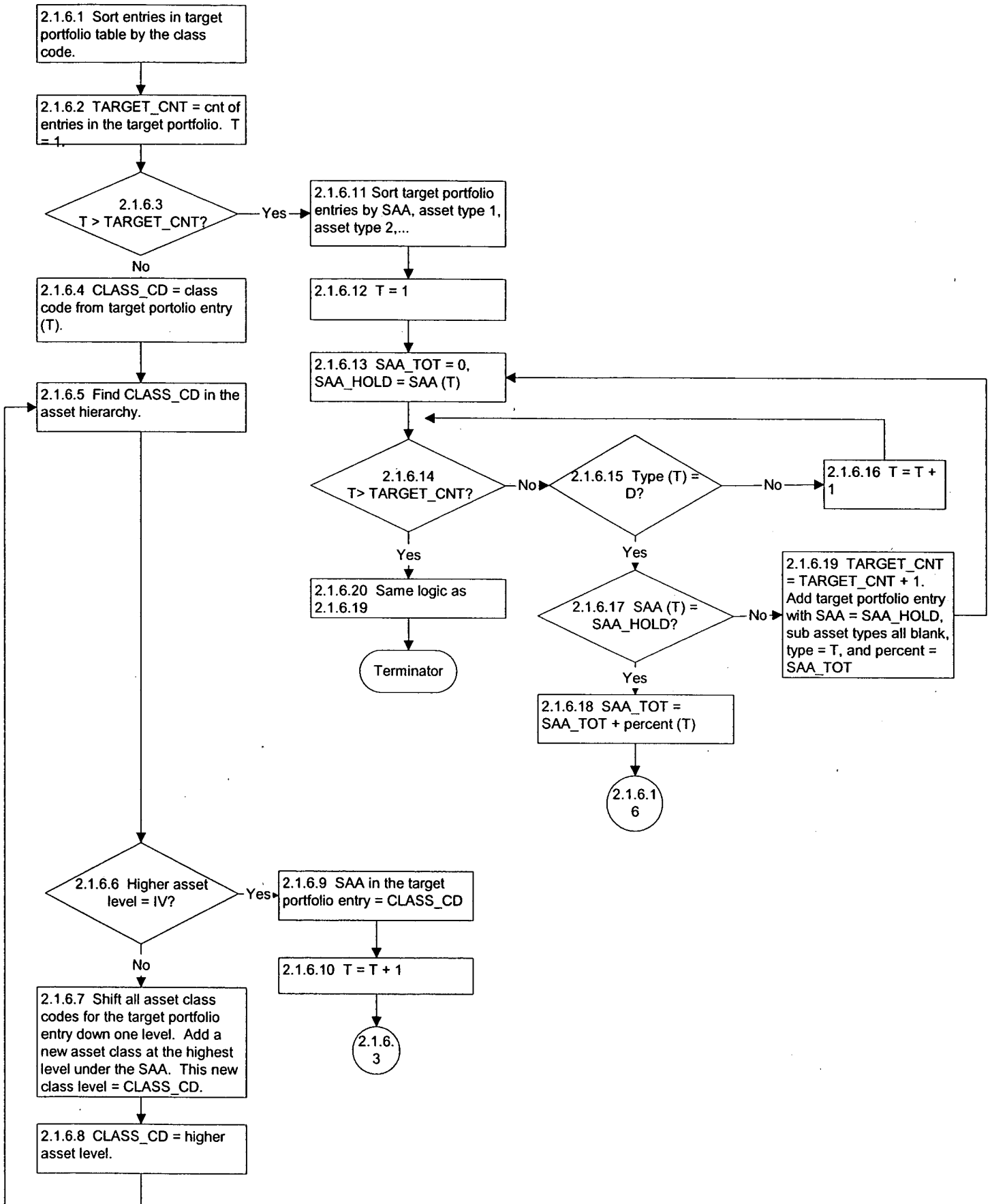


2.1.5 Populate the target portfolio table with the asset entries obtained in 2.1.4. Each entry is assigned a detail/total type of D.

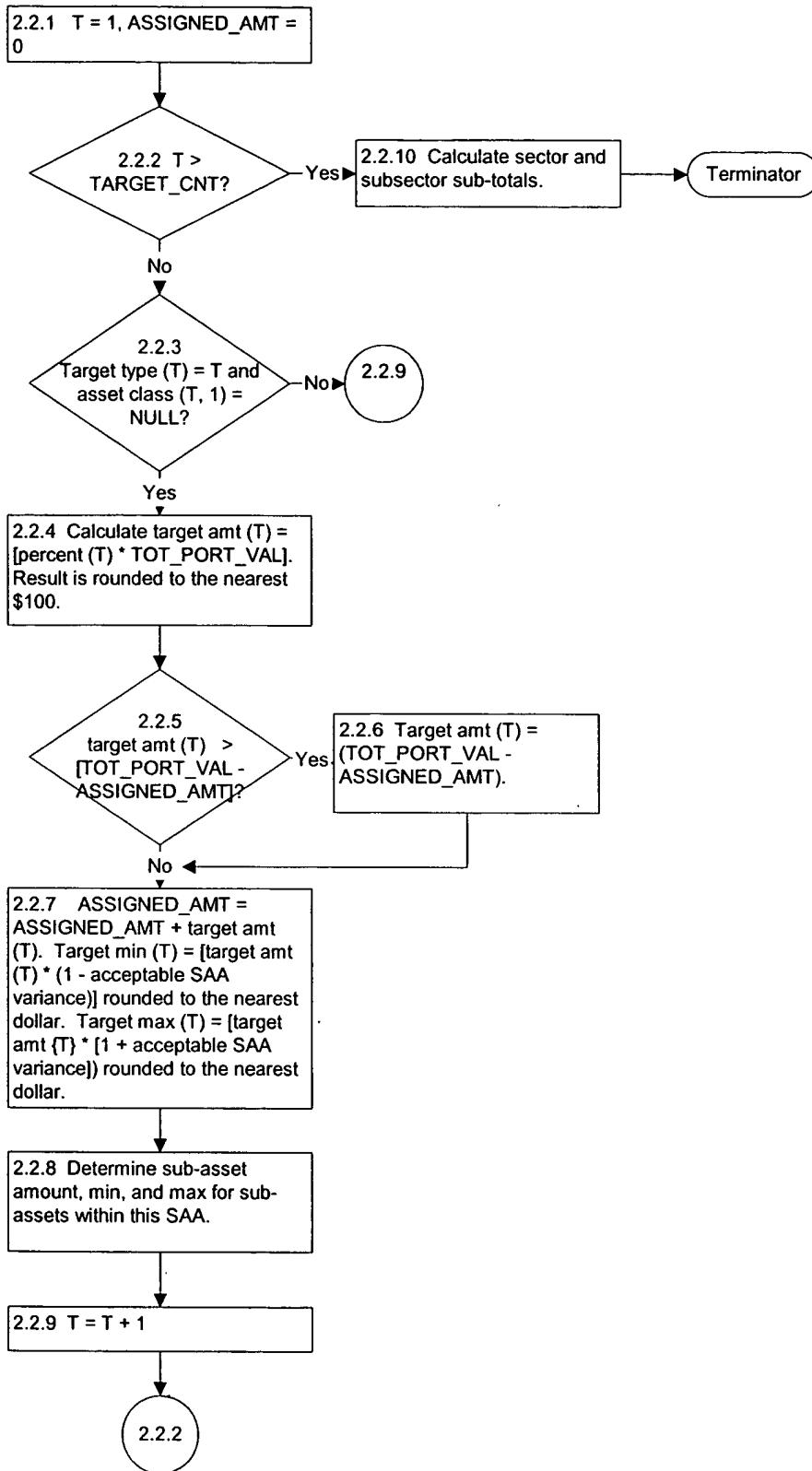


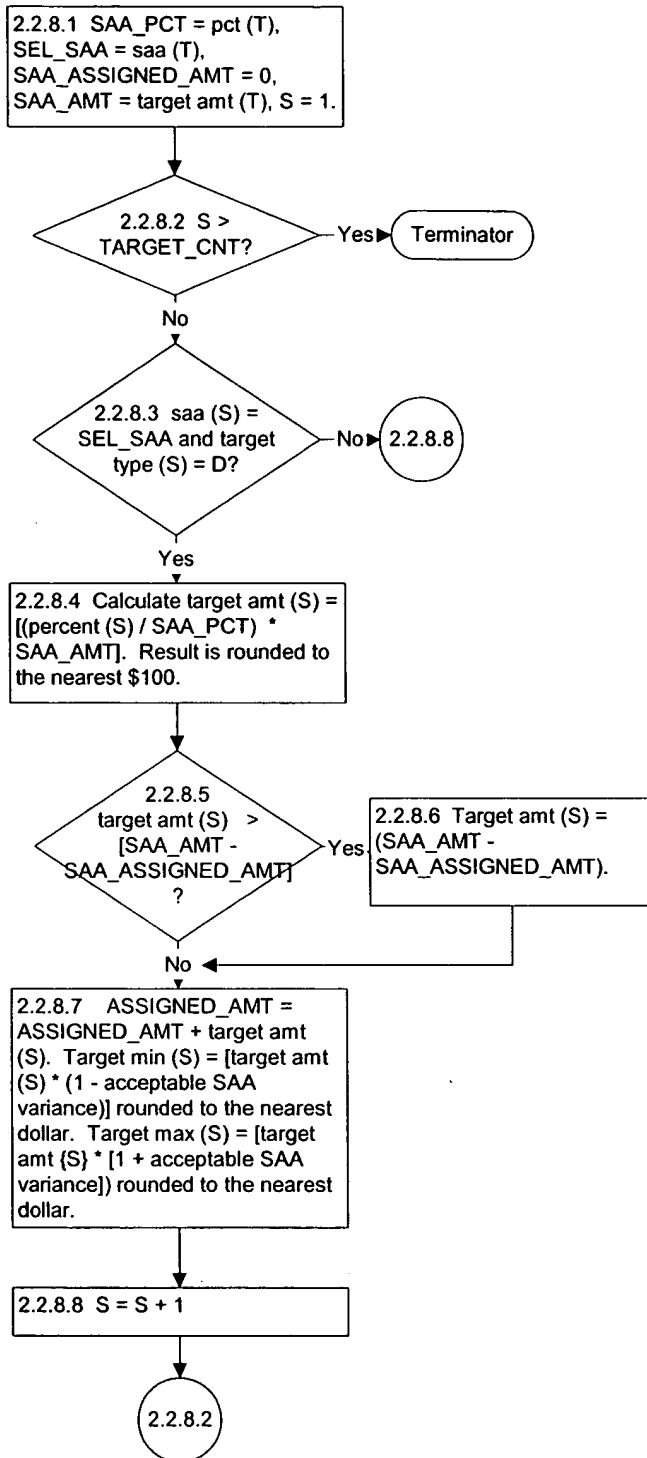
2.1.6 Determine SAA, sector, and sub-sector classifications for each detail entry in the portfolio. Create SAA total entries.



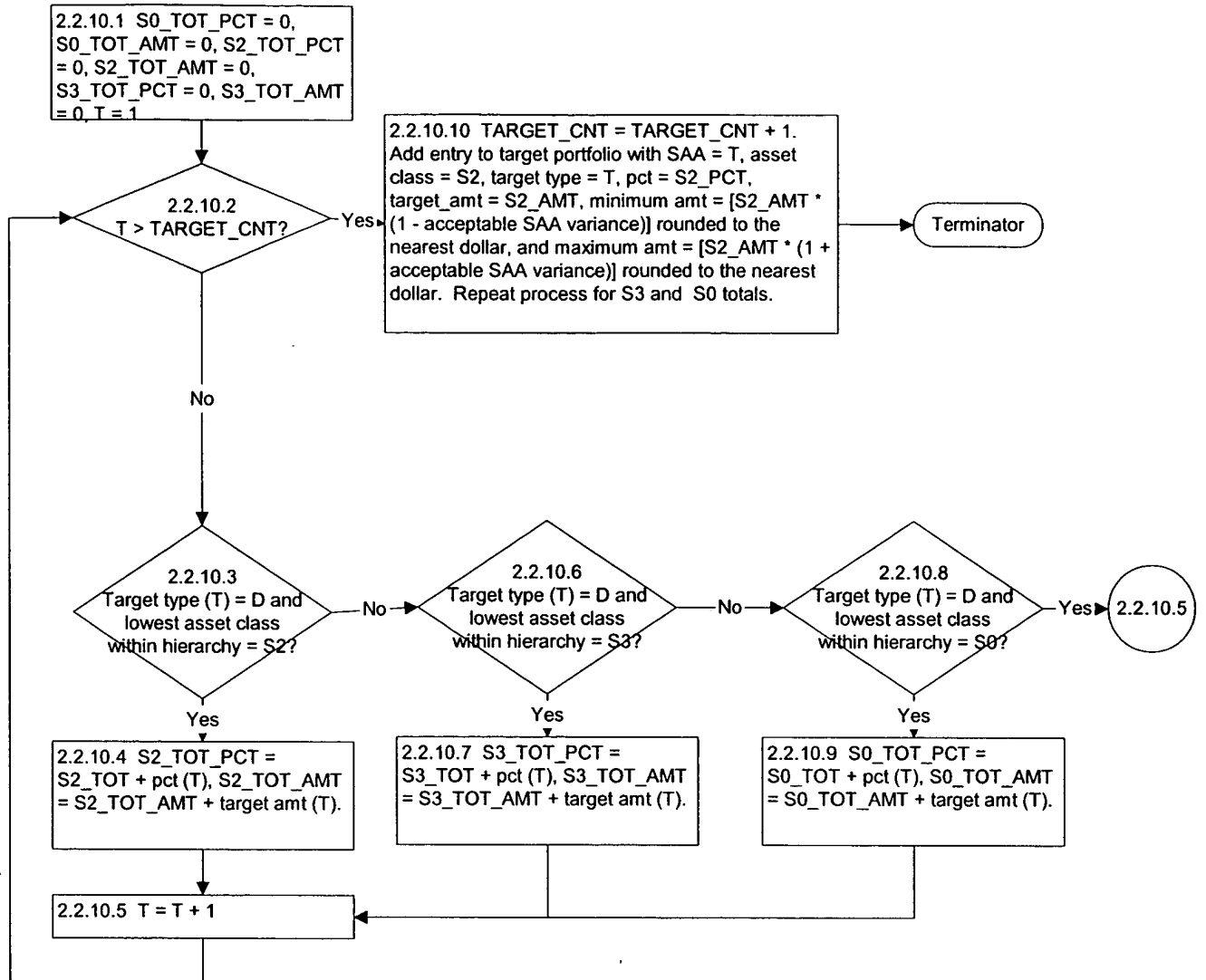


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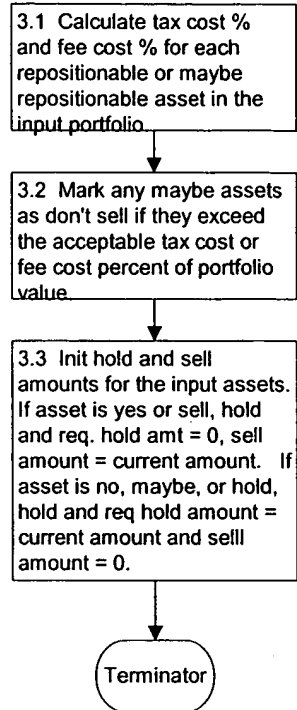




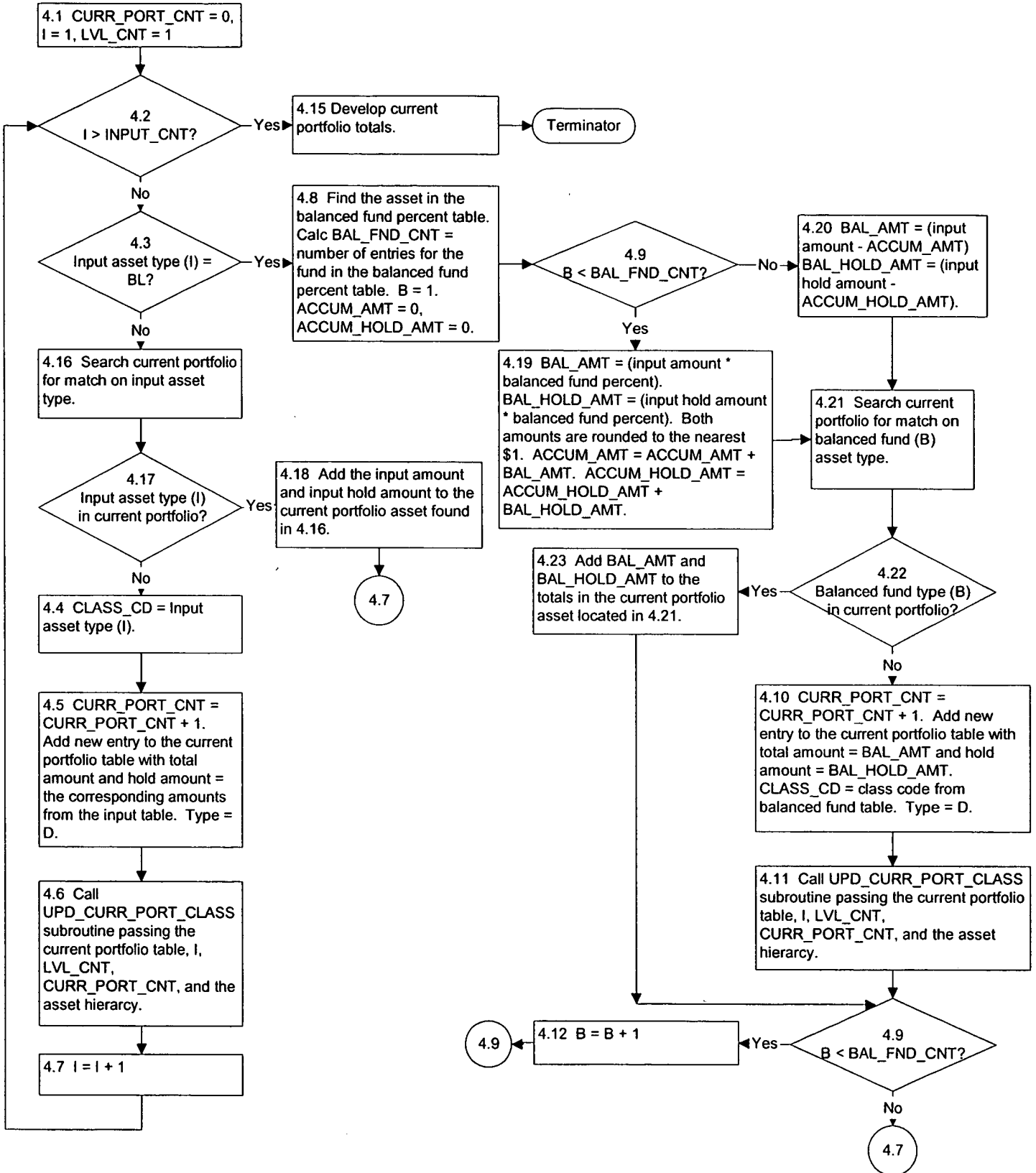
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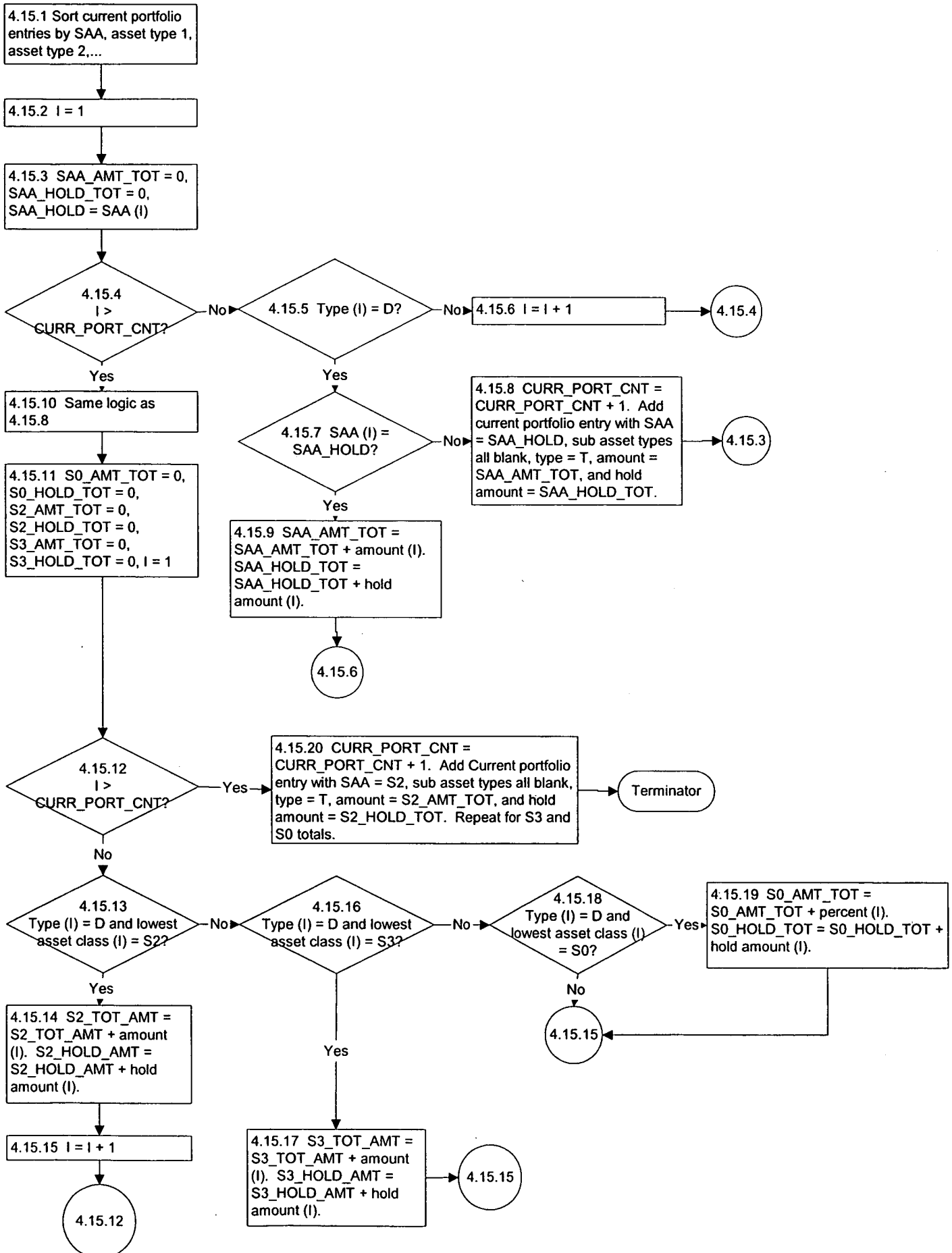
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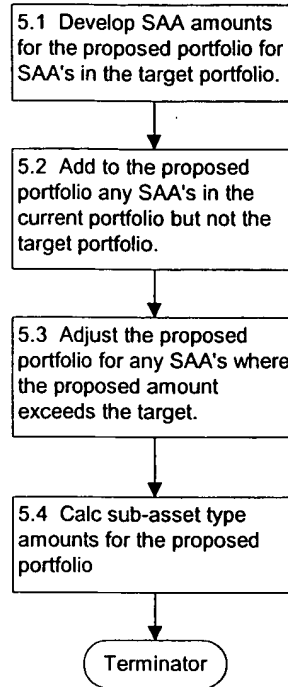
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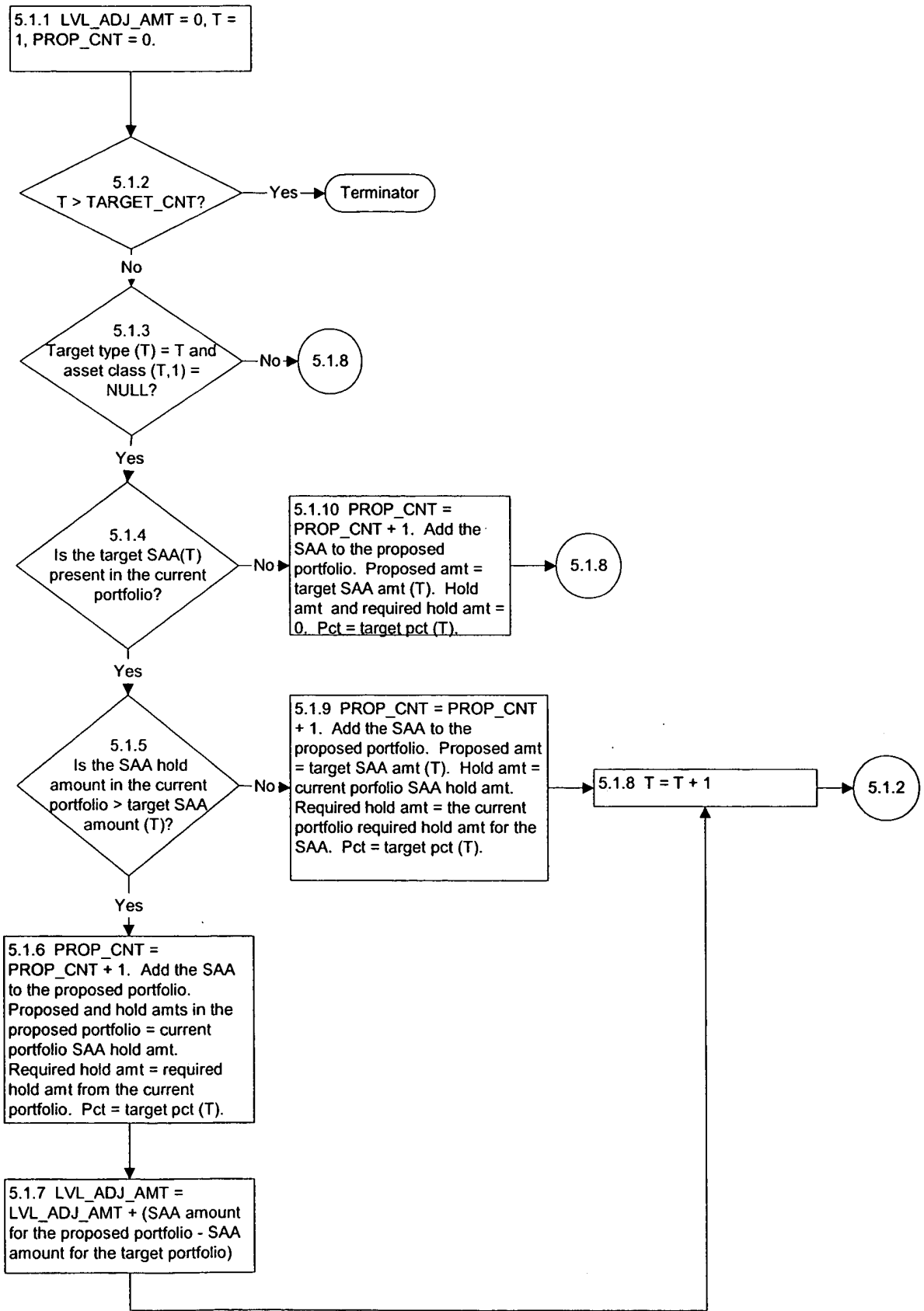


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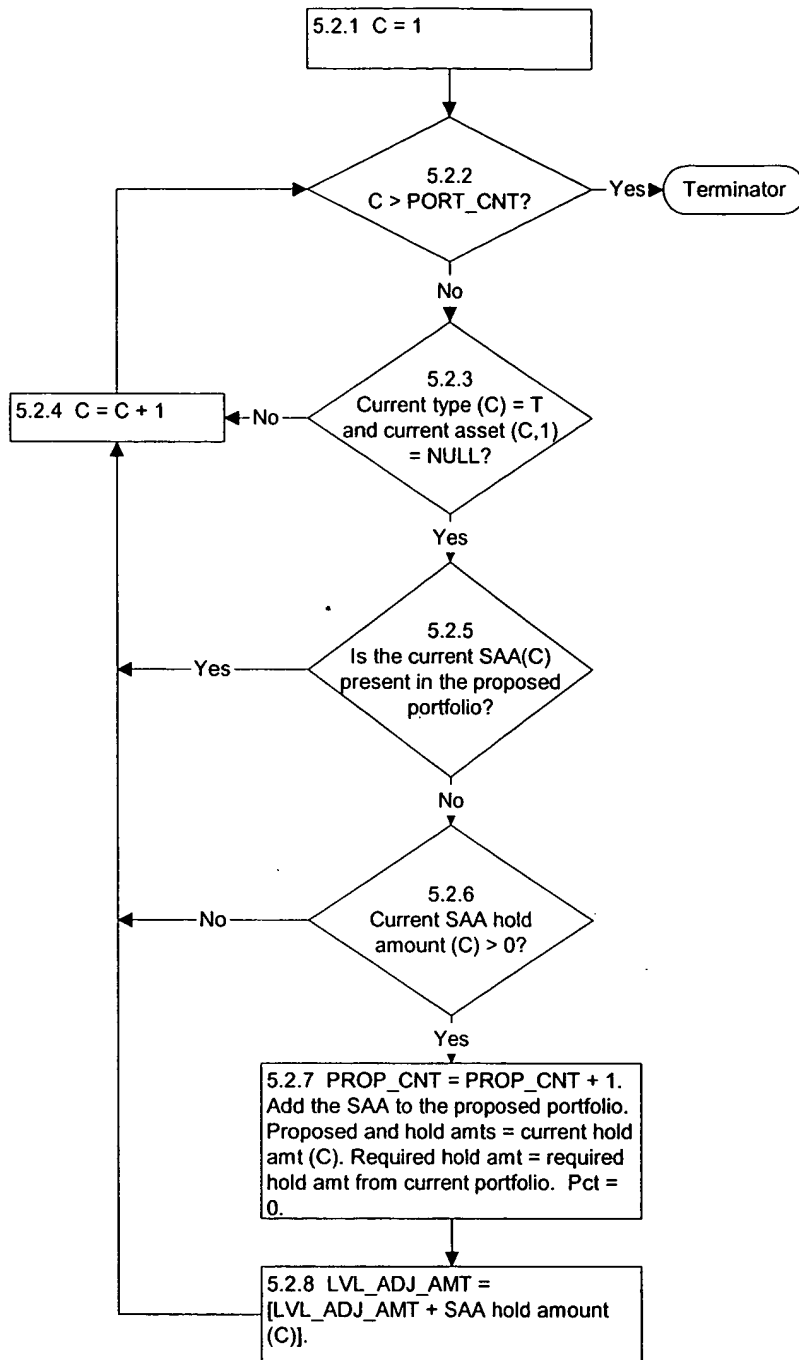


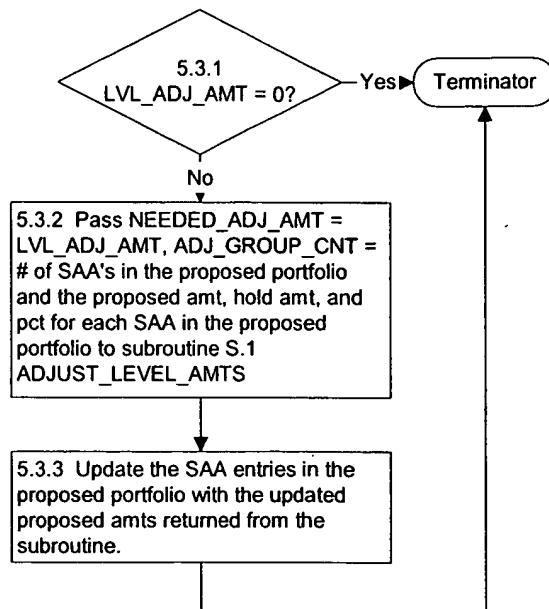
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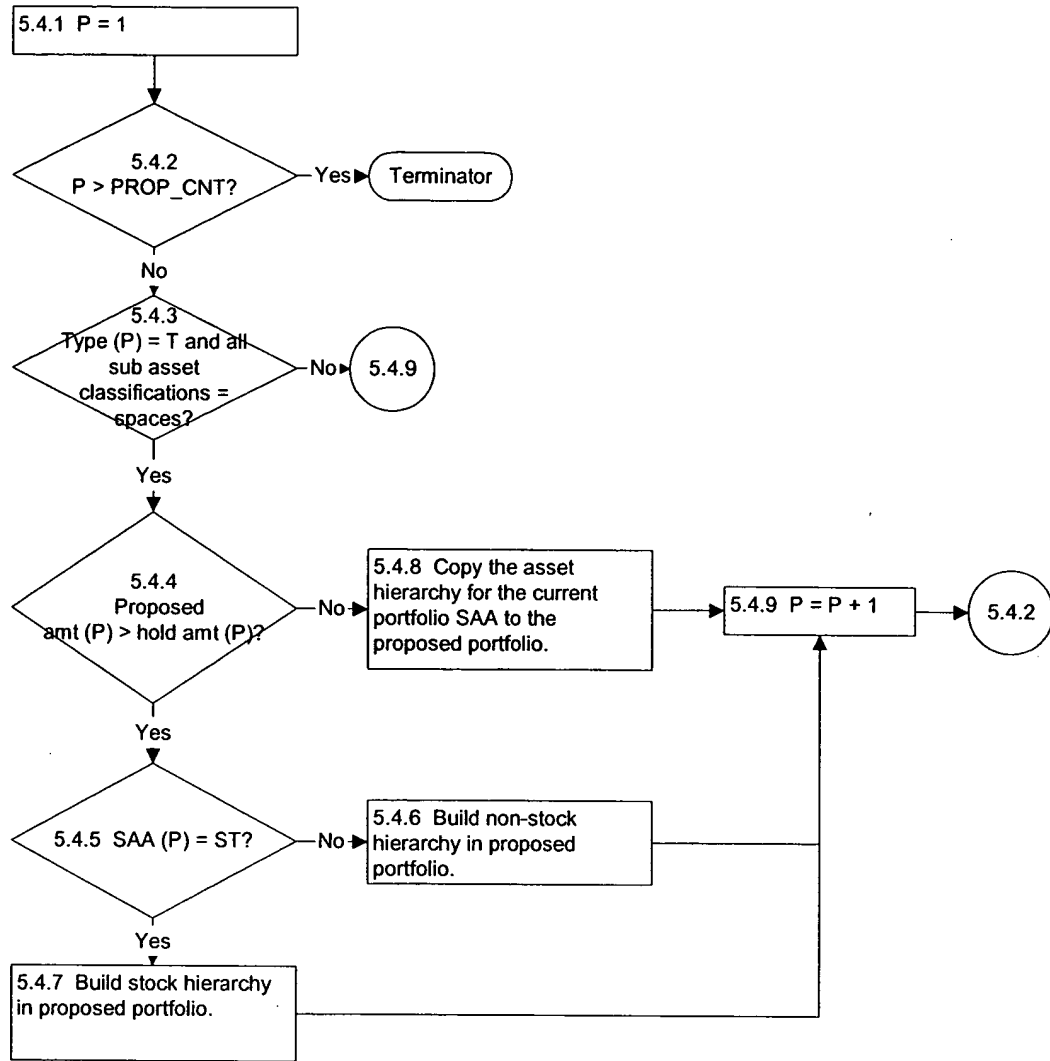


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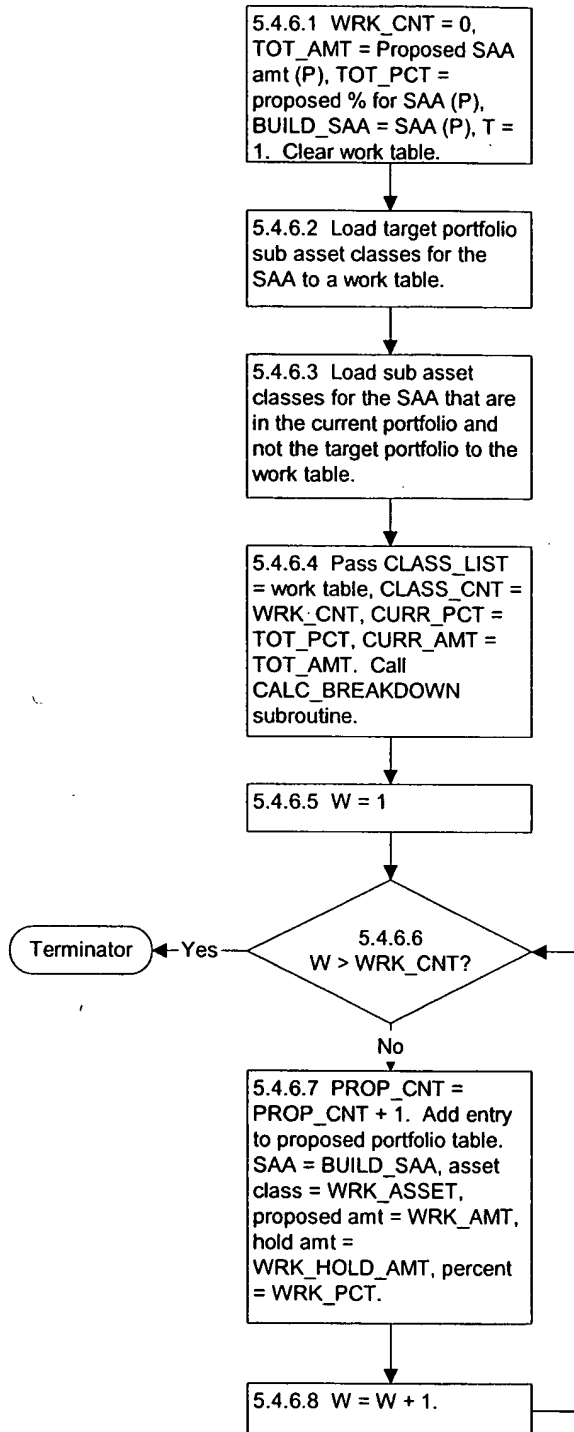
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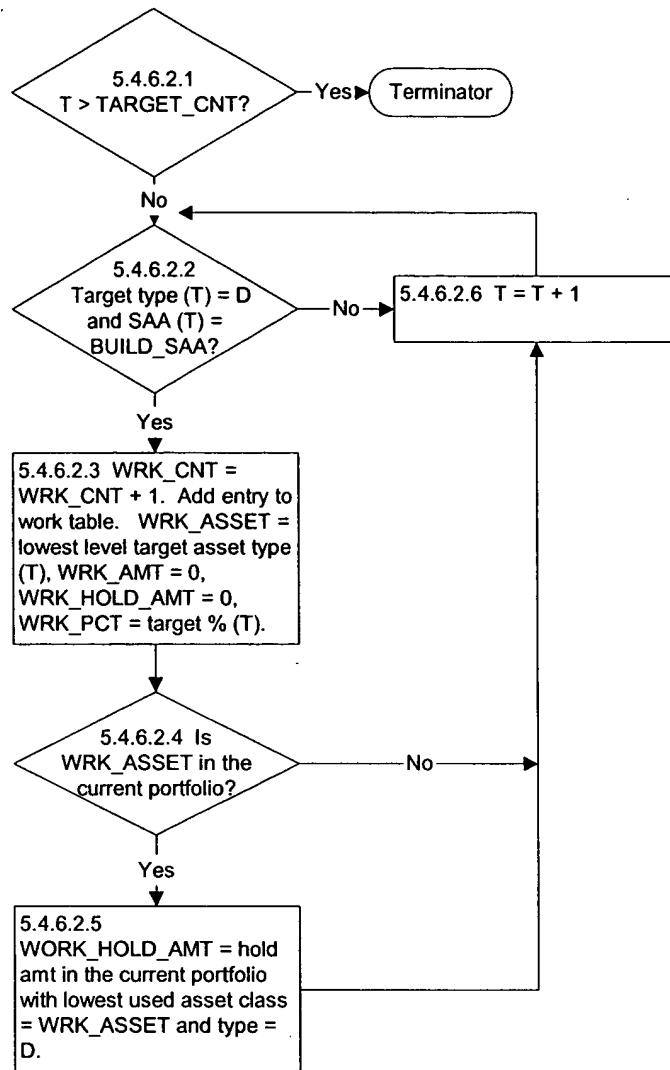
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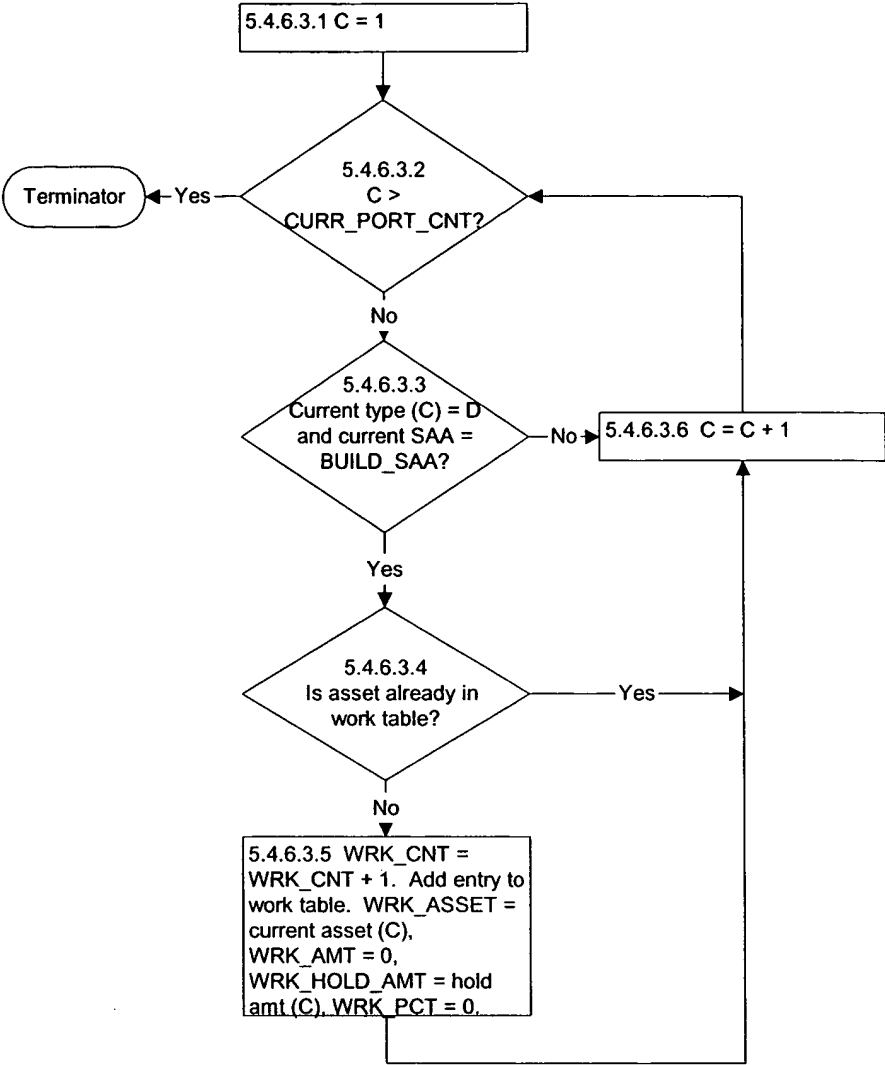
Work table contains asset type, desired percentage, proposed amount, and hold amount for each entry added.

SAA (P) is the SAA currently being processed.

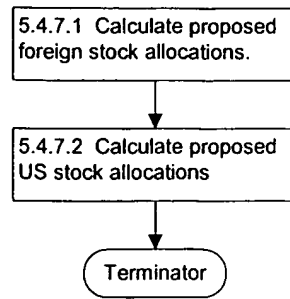


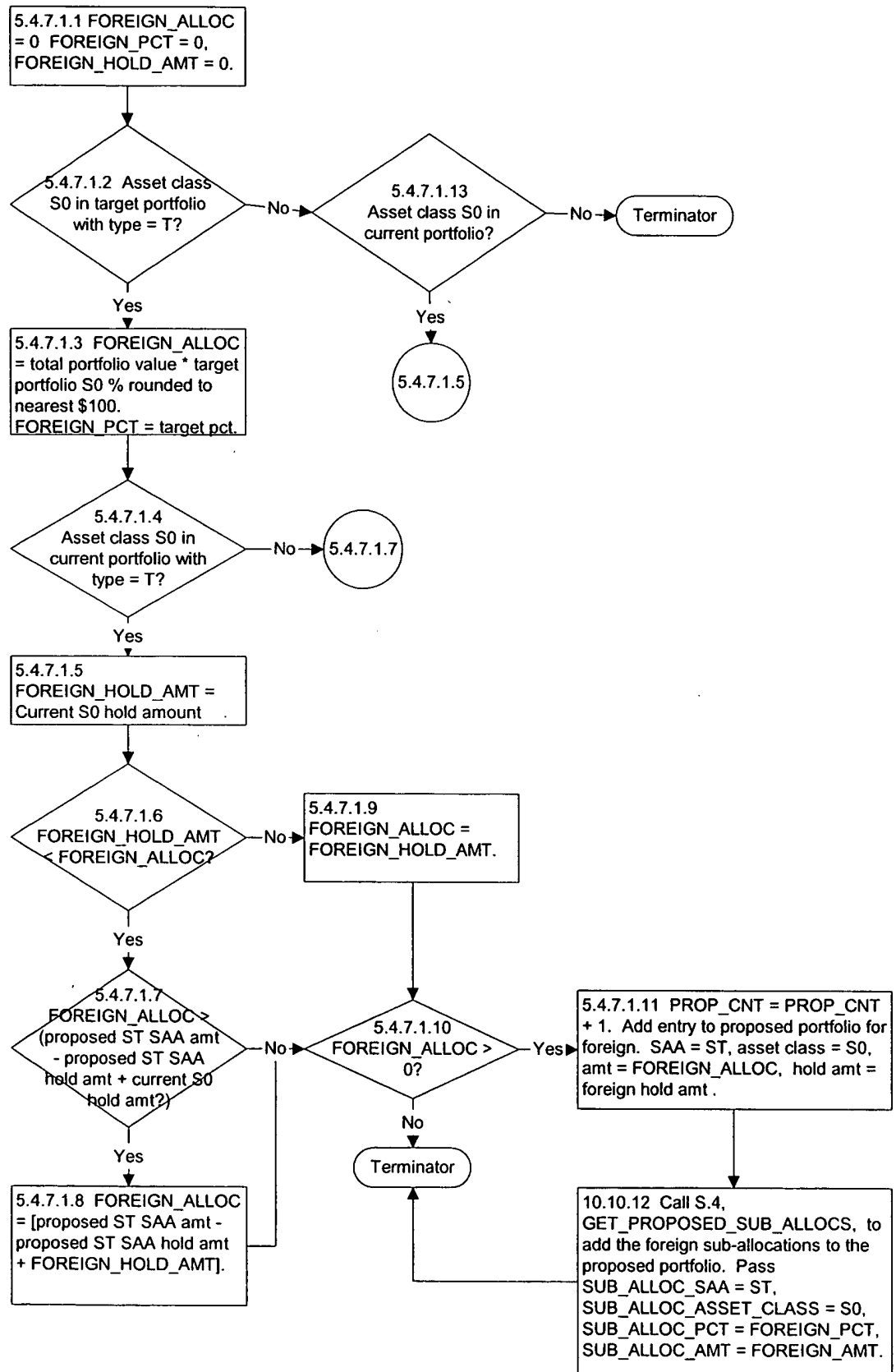
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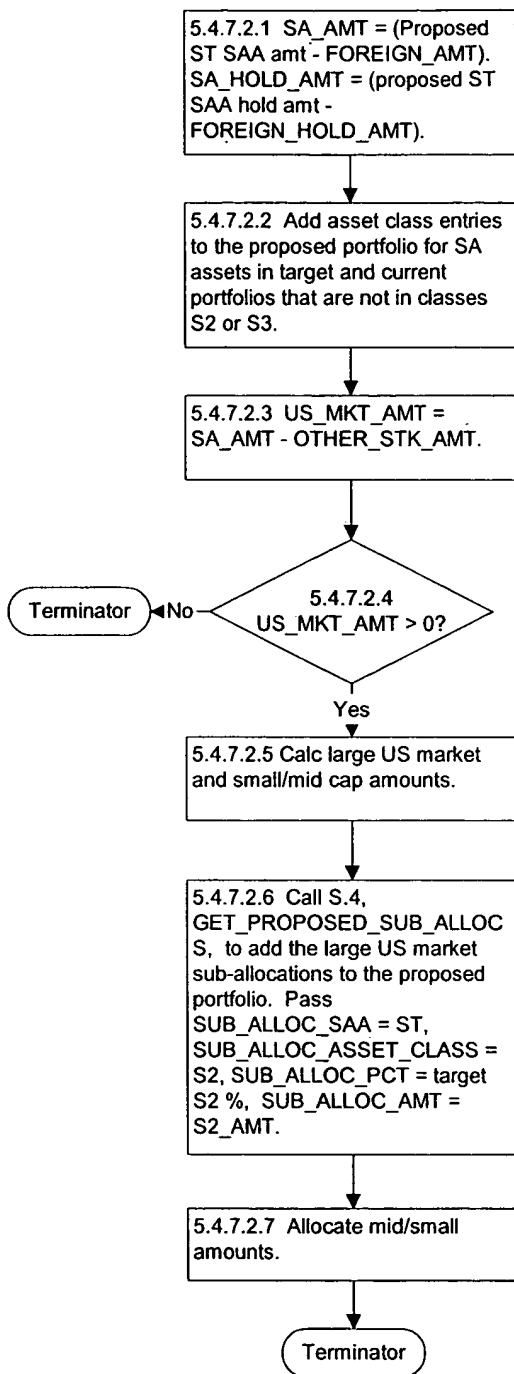




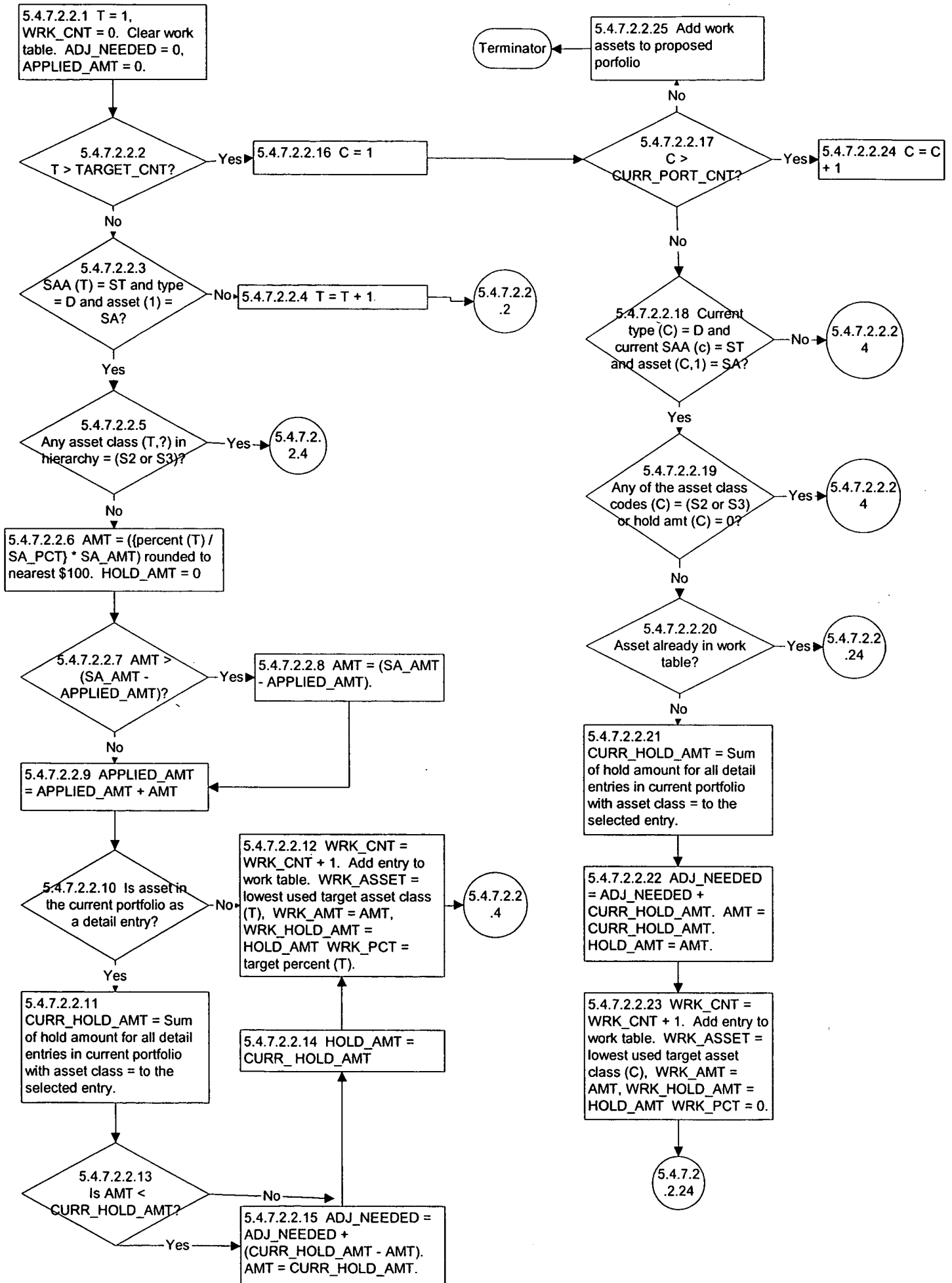
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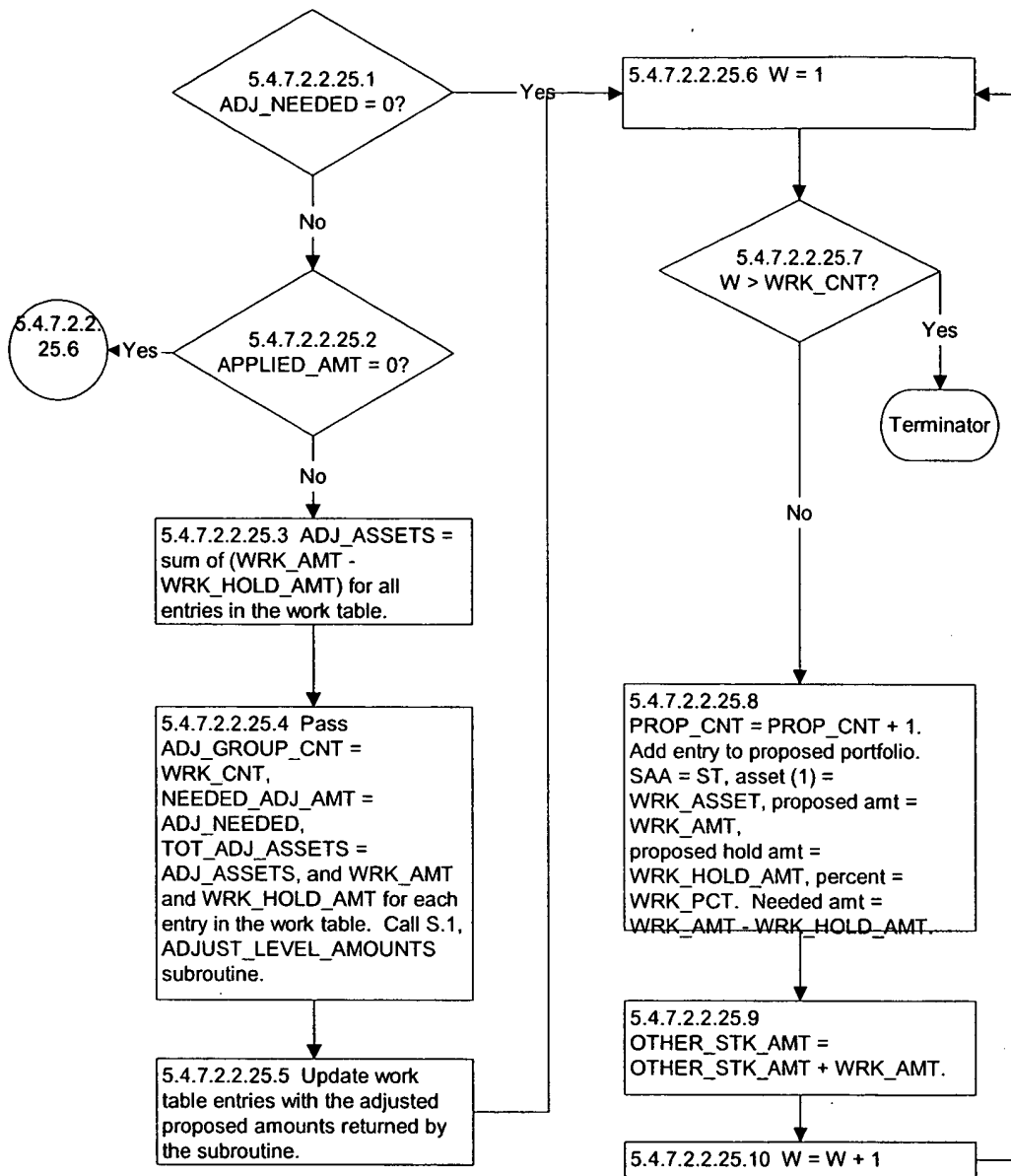




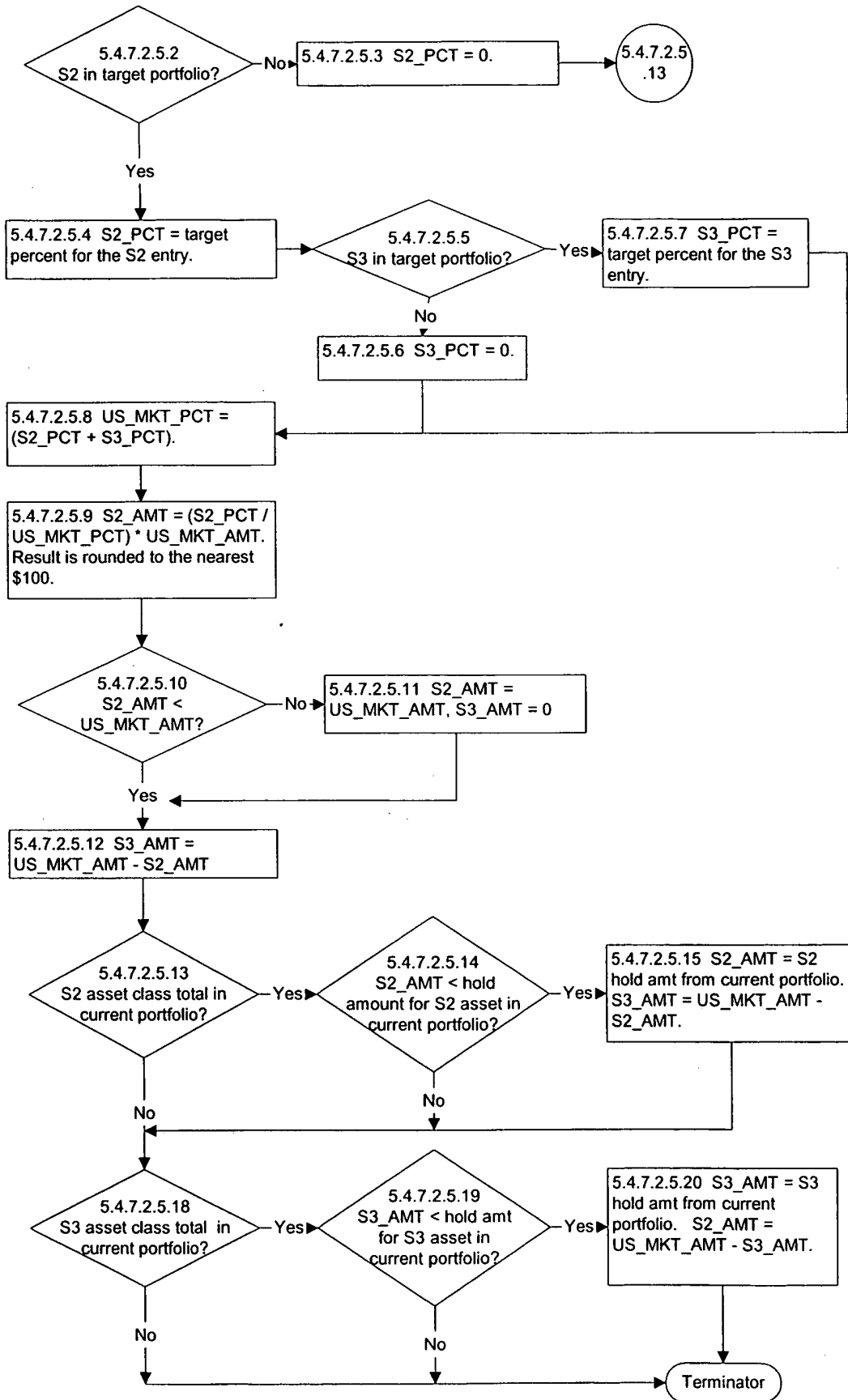


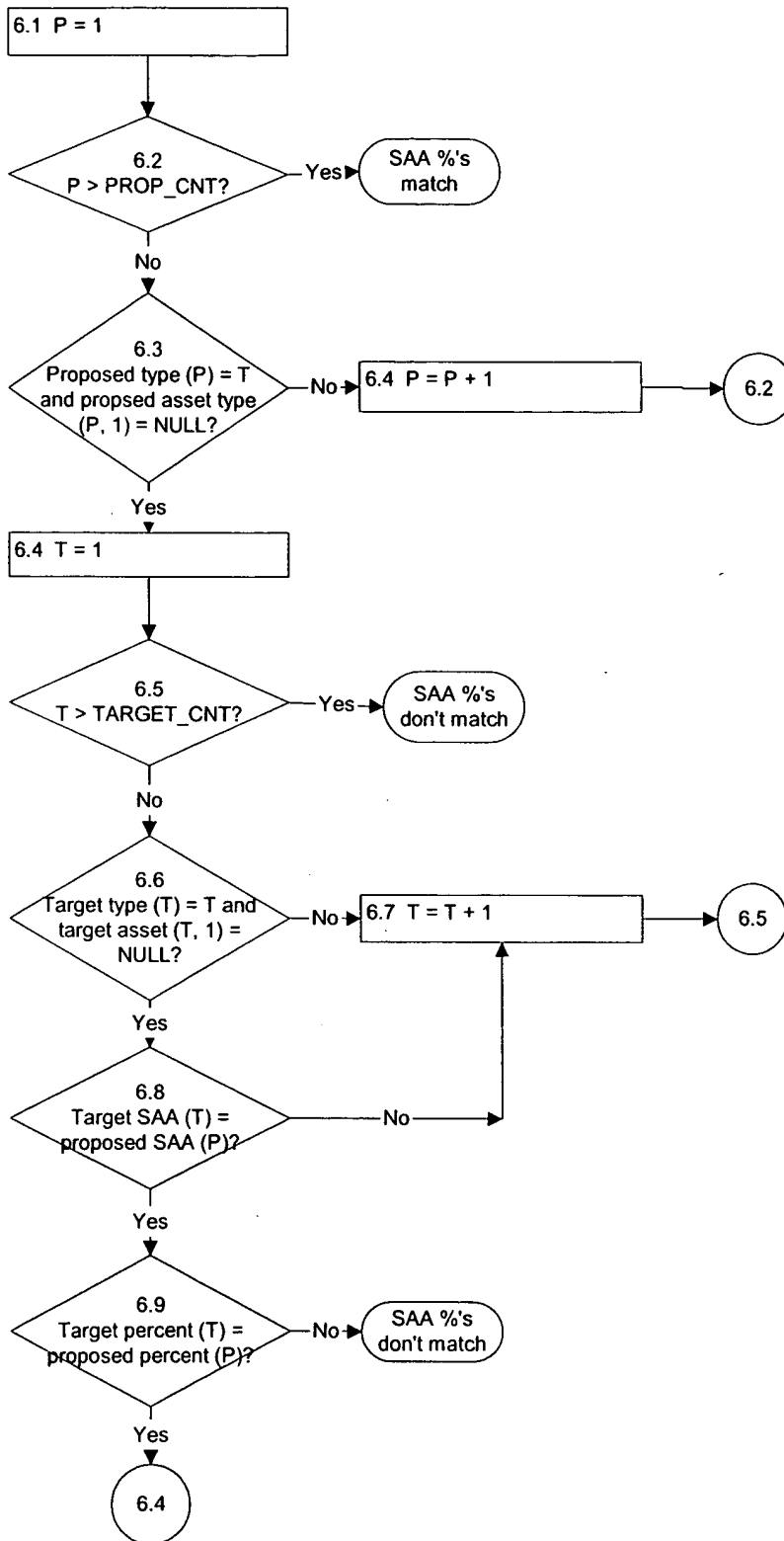
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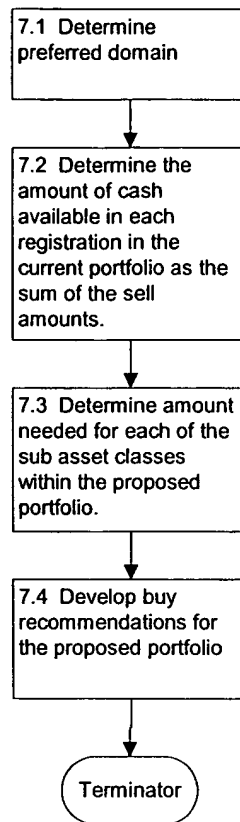


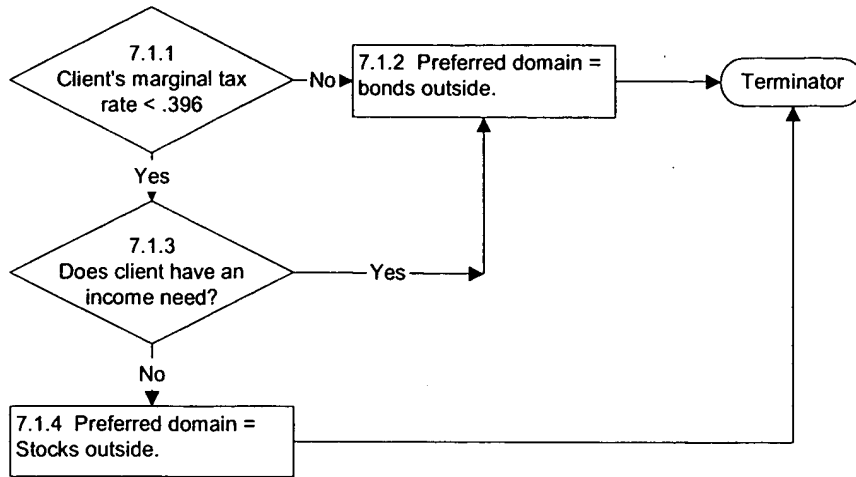
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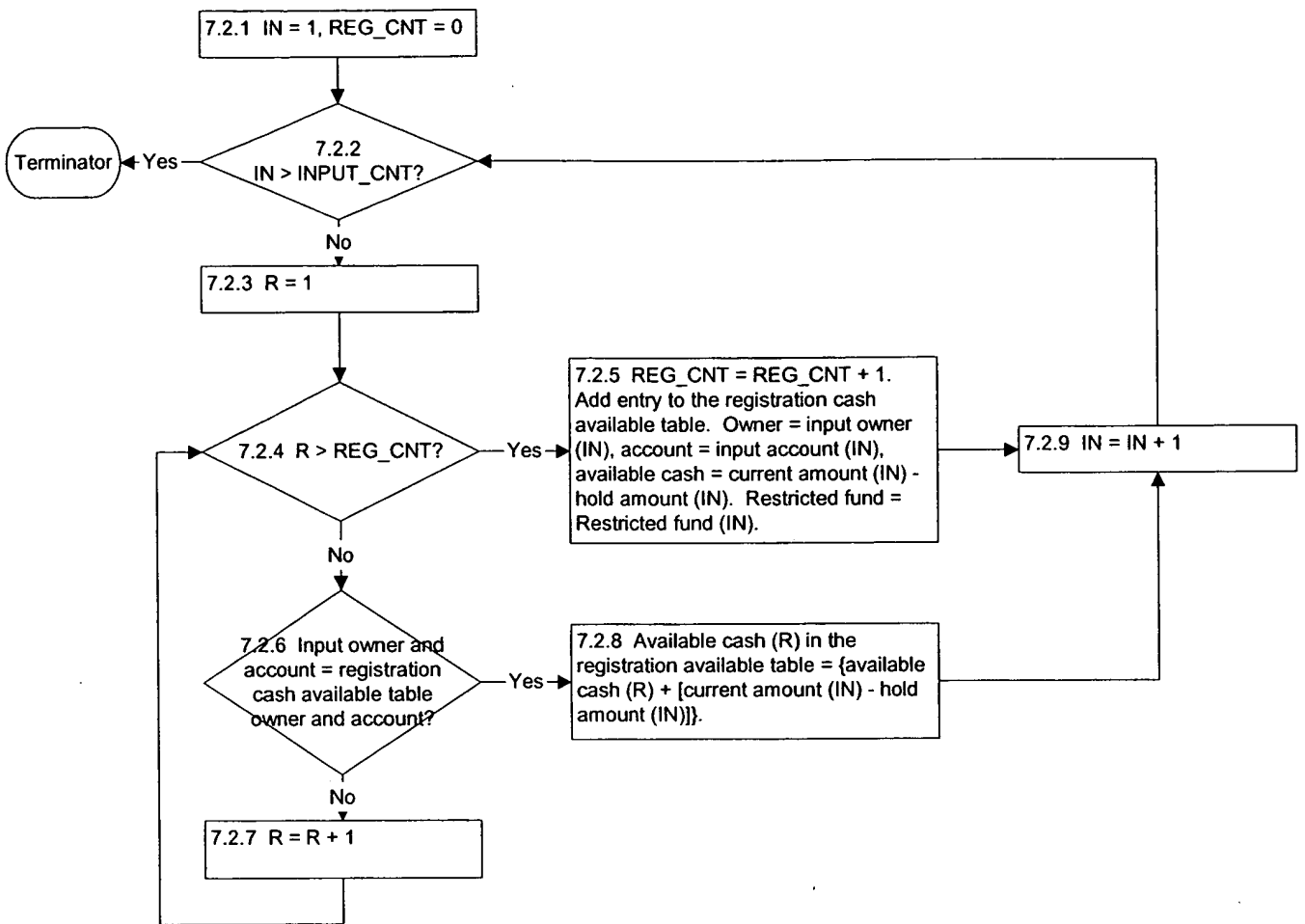


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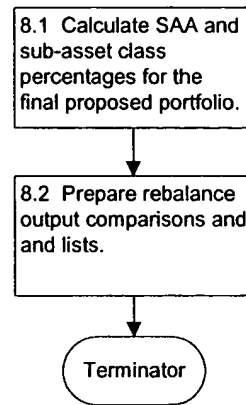


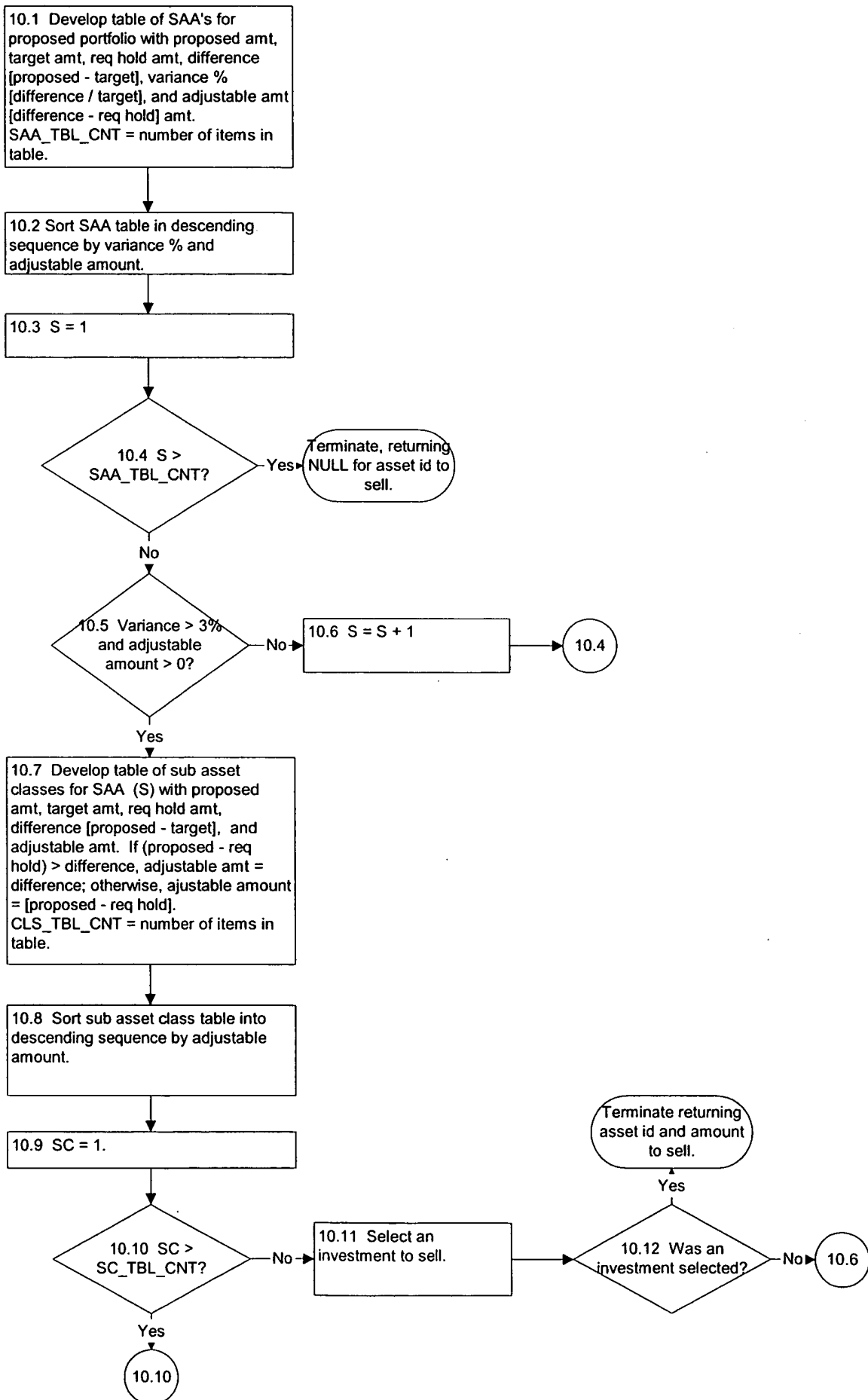


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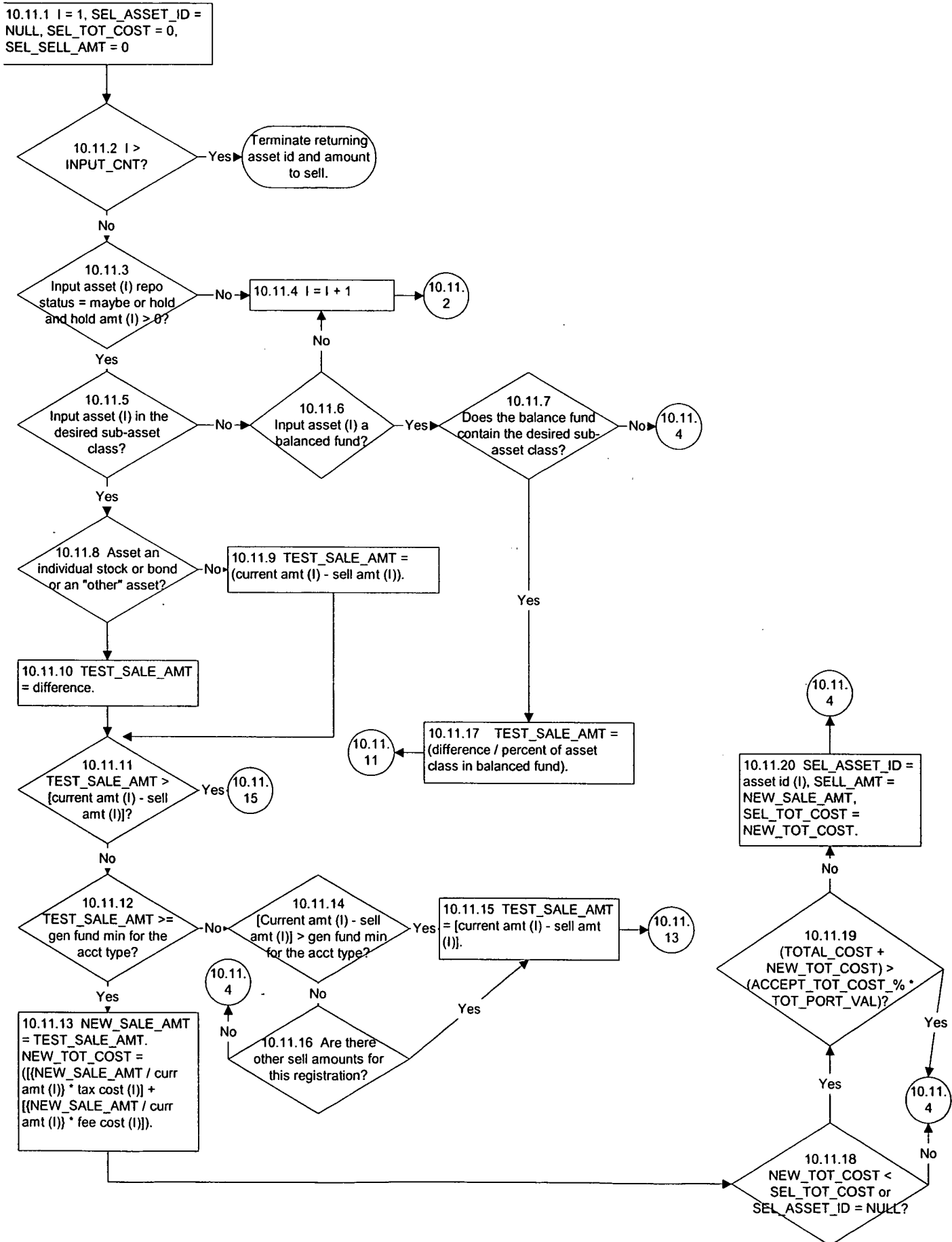


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S.1 ADJUST_LEVEL_AMOUNTS Subroutine

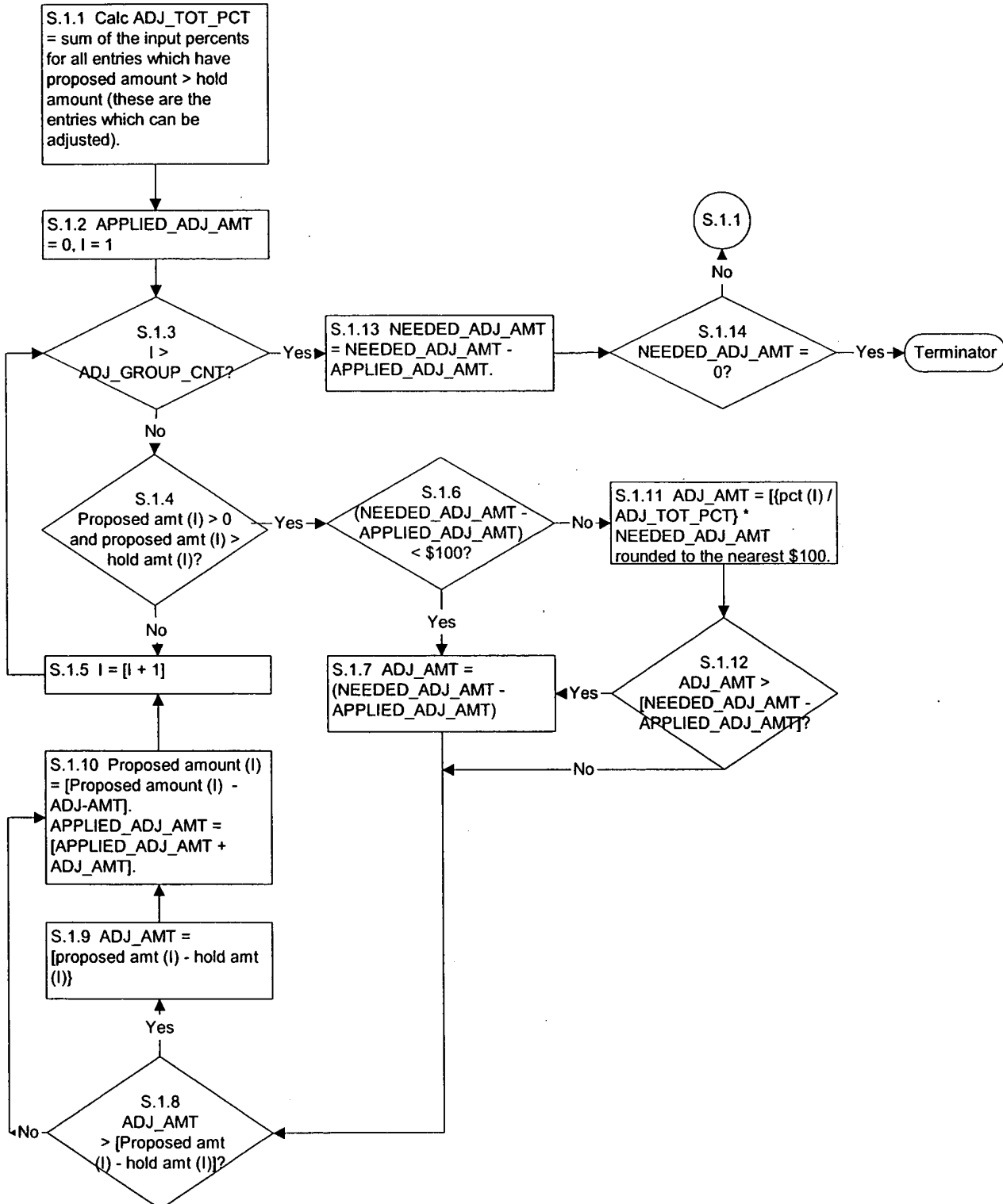
Purpose: Adjust overweighting within a level of the asset hierarchy (e.g. SAA).

Input: ADJ_GROUP_CNT - Number of items in the group to be adjusted.

NEEDED_ADJ_AMT - The amount of the overallocation to be spread among the other members of the hierarchy level.

For each entry in the group to be adjusted: proposed amount, hold amount, percent.

Returned: Updated proposed amount for each member in the supplied group.



Auto Rebal Model - Version 1.0
S.2 CALC_BREAKDOWN Subroutine

Purpose: Calculate the breakdown of an SAA or asset sub-type into the proper weightings based on the desired percentages and the amount which is not repositionable in a given asset type.

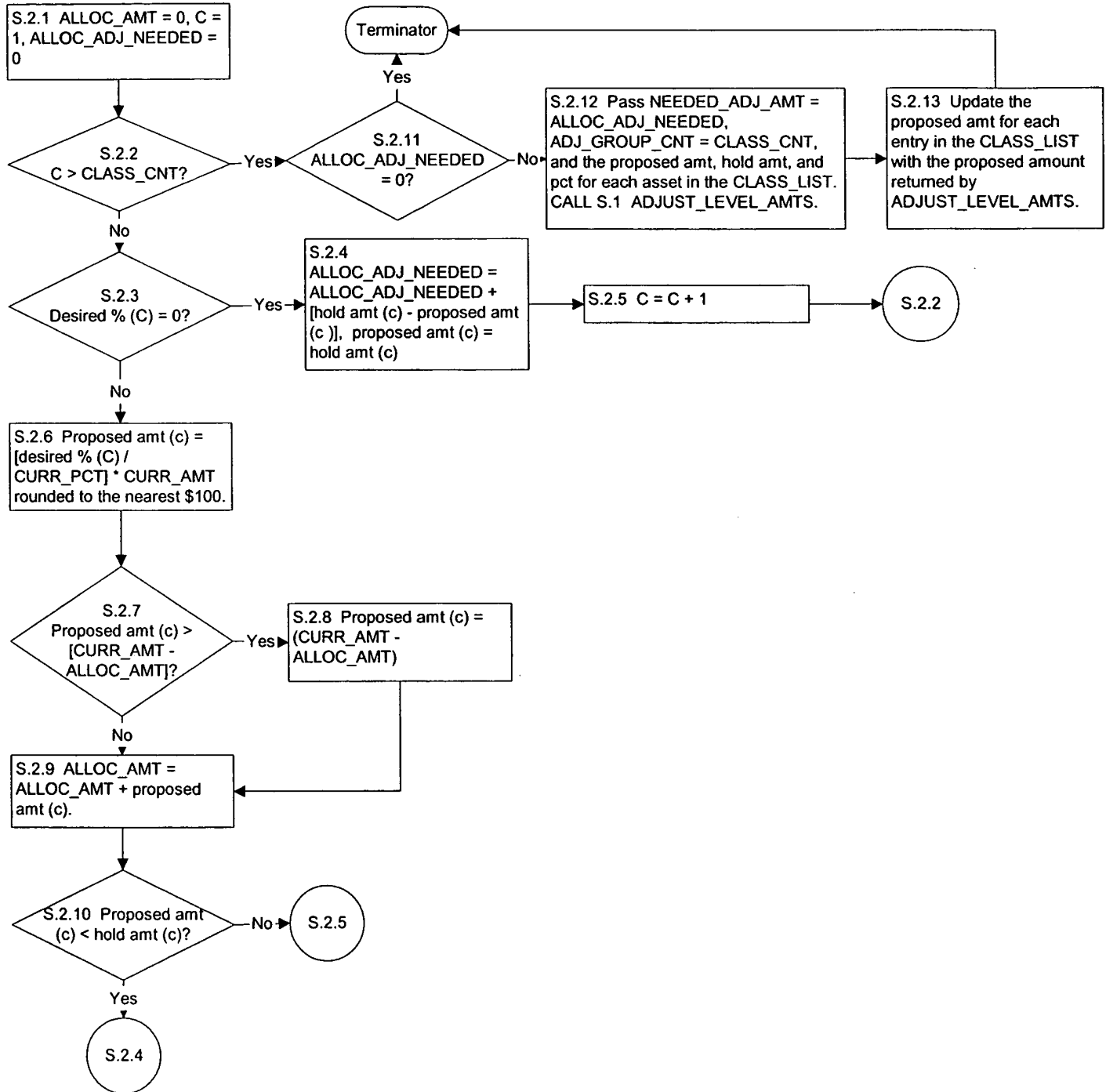
Input: CLASS_LIST - A table of assets for which the proposed amount should be calculated. For each asset, the desired percentage, a bucket for the proposed amount, and the amount which must be retained in the asset are supplied.

CLASS_CNT - The number of items in the CLASS_LIST table.

CURR_AMT - The total amount to be spread between the asset sub-types based on the desired percentages and the amount to be held in the assets.

CURR_PCT - The percentage of the total portfolio represented by the entire group of assets to be allocated.

Returned: Proposed amount for each member of the CLASS_LIST.



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S.3 UPD_CURR_PORT_CLASS Subroutine

Pupose: Fill in the asset hierarchy information for an asset within the current portfolio table.

Input: LVL_CNT = Number of asset levels used in the current portfolio table.

Current portfolio table - The detail element which make up the current portfolio. Each entry contains an SAA, 1 or more asset sub-type levels, a type to define whether the entry is a detail or total, the total amount in the asset, and the amount which must be held in the asset.

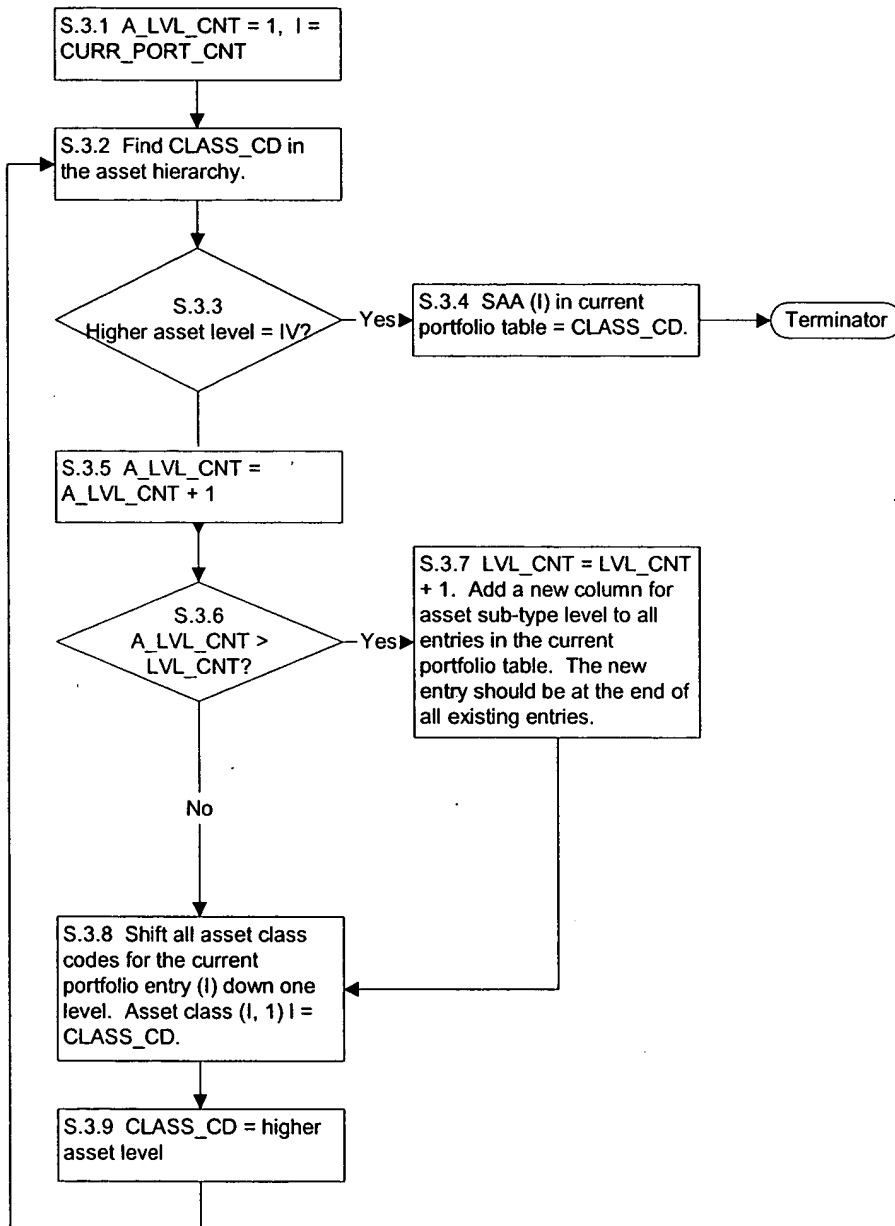
CURR_PORT_CNT = The number of entries in the current portfolio table.

Asset hierarchy - The table which defines the asset class to which a given asset class belongs.

Output: Current portfolio entry (I) is updated with the higher level assets from the asset hierarchy.

Current portfolio table - The table is updated to add any additional slots for new asset sub-type levels so that all entries in the table have a consistent number of asset level.

LVL_CNT is updated if an additional asset sub-type level is added to the table.



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S.4 GET_PROPOSED_SUB_ALLOCS Subroutine

Purpose: Determine the sub-allocations for a given SAA and asset class for the proposed portfolio.

Input: SUB_ALLOC_SAA - The SAA for which the sub-allocations will be developed.

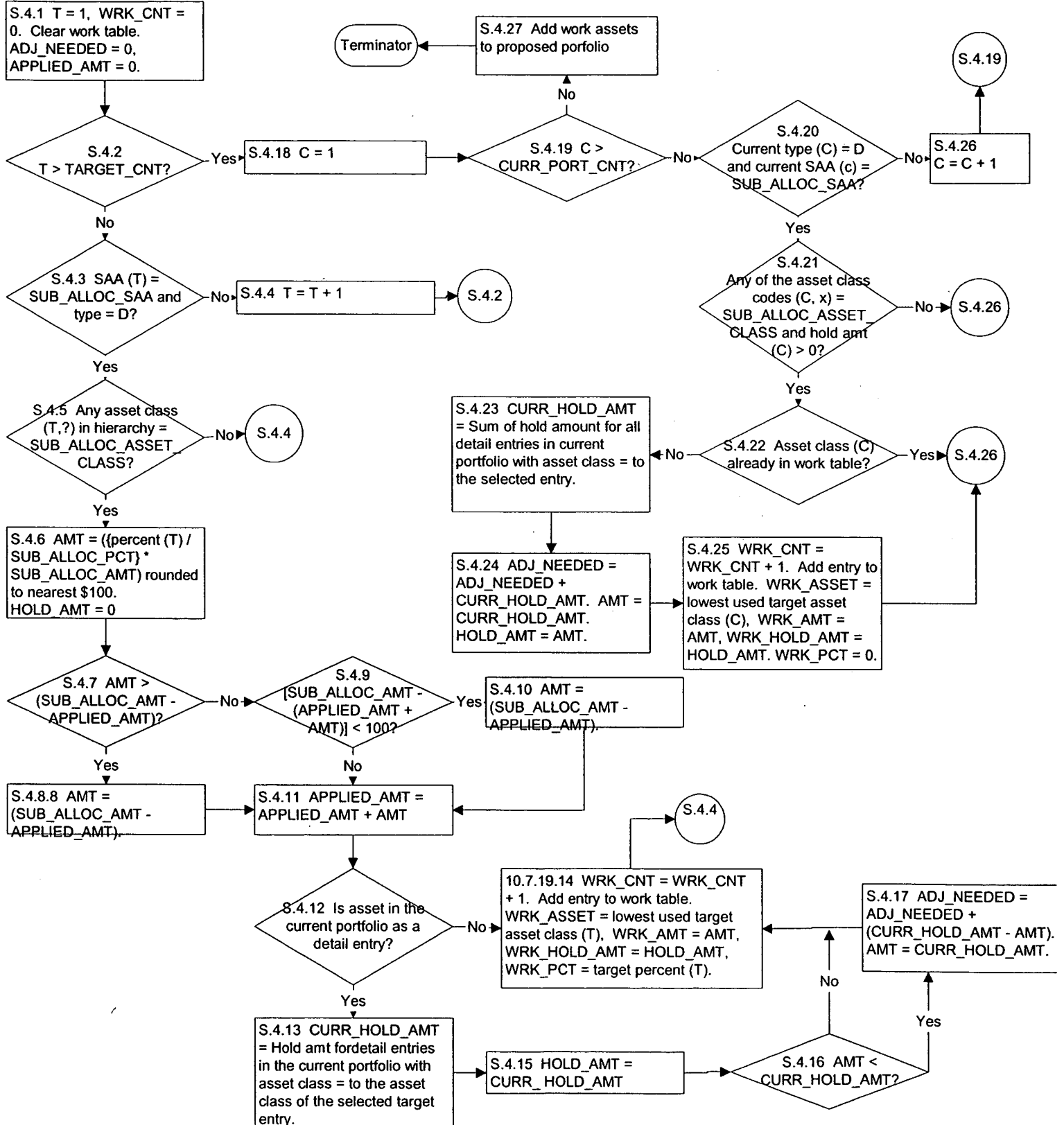
SUB_ALLOC_ASSET_CLASS - The asset class for which sub-allocations will be developed.

SUB_ALLOC_PCT - The target percent for the asset class to be sub-allocated.

SUB_ALLOC_AMT - The amount to be sub-allocated.

The routine must also have access to the proposed portfolio table, the current portfolio, and the target portfolio.

Returned: Updated proposed portfolio containing the sub-allocations for the SAA/asset class provided.



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S.4 GET_PROPOSED_SUB_ALLOCS Subroutine

